

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

Thompson Creek Mining Company
P.O. Box 62
Clayton, Idaho 83227

is authorized to discharge from the Thompson Creek Mine facility located near Challis, Idaho, at the following locations:

<u>Outfall</u>	<u>Receiving Water</u>	<u>Latitude</u>	<u>Longitude</u>
001	Thompson Creek	44° 18' 38" N	114° 34' 30" W
002	Thompson Creek	44° 17' 30" N	114° 32' 41" W
003	Squaw Creek	44° 17' 46" N	114° 28' 36" W
004	Squaw Creek	44° 17' 53" N	114° 28' 30" W
005	Salmon River	44° 14' 56" N	114° 31' 09" W

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective <Date>

This permit and the authorization to discharge shall expire at midnight, <Date>

Signed this day of

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Randall F. Smith
Director
Office of Water, Region 10
U.S. Environmental Protection Agency

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TABLE OF CONTENTS

I.	LIMITATIONS AND MONITORING REQUIREMENTS	4
A.	Effluent Limitations and Monitoring	4
B.	Whole Effluent Toxicity Testing Requirements.	10
C.	Surface Water Monitoring	15
D.	Bioassessment Program	18
E.	Bioaccumulation Study	20
F.	Quality Assurance Plan (QAP)	22
G.	Selenium Schedule of Compliance	23
II.	BEST MANAGEMENT PRACTICES PLAN	24
A.	Purpose	24
B.	Development and Implementation Schedule	25
C.	Objectives	25
D.	Elements of the BMP Plan	25
E.	Comprehensive Site Compliance Evaluation	29
F.	Annual Report and Certification	29
G.	Documentation	30
H.	BMP Plan Modification	30
III.	MONITORING, RECORDING AND REPORTING REQUIREMENTS	30
A.	Representative Sampling (Routine and Non-Routine Discharges)	30
B.	Reporting of Monitoring Results	31
C.	Monitoring Procedures	31
D.	Additional Monitoring by Permittee	31
E.	Records Contents	32
F.	Retention of Records	32
G.	Twenty-four Hour Notice of Noncompliance Reporting	32
H.	Other Noncompliance Reporting	33
I.	Changes in Discharge of Toxic Substances	33
J.	Compliance Schedules	34
IV.	COMPLIANCE RESPONSIBILITIES	34
A.	Duty to Comply	34
B.	Penalties for Violations of Permit Conditions	35
C.	Need to Halt or Reduce Activity not a Defense	37
D.	Duty to Mitigate	37
E.	Proper Operation and Maintenance	37
F.	Bypass of Treatment Facilities	37
G.	Upset Conditions	38

DRAFT

H. Toxic Pollutants 39

I. Planned Changes 39

J. Anticipated Noncompliance 39

V. GENERAL PROVISIONS 39

 A. Permit Actions 39

 B. Duty to Reapply 39

 C. Duty to Provide Information 40

 D. Other Information 40

 E. Signatory Requirements 40

 F. Availability of Reports 41

 G. Inspection and Entry 41

 H. Property Rights 42

 I. Transfers 42

 J. State Laws 42

VI. DEFINITIONS 42

I. LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge pollutants from outfalls 001 and 002 to Thompson Creek, outfalls 003 and 004 to Squaw Creek, and outfall 005 to the Salmon River, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

A. Effluent Limitations and Monitoring

1. The permittee must limit and monitor discharges from outfalls 001, 002, 003, 004, and 005 as specified in Tables 1 through 5, below. All figures represent maximum effluent limits unless otherwise indicated. The permittee must comply with the effluent limits in the tables at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.
2. The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.
3. The pH must not be less than 6.5 standard units (s.u.) nor greater than 9.0 standard units (s.u.).
4. The permittee must collect effluent samples from the effluent stream after the last treatment unit prior to discharge into the receiving waters.
5. Method Detection Limits. For all effluent monitoring, the permittee must use methods that can achieve a method detection limit (MDL) less than the effluent limitation. For parameters that do not have effluent limitations, the permittee must use methods that can achieve MDLs less than or equal to those specified in Table 7 (Part I.C.3.).

For purposes of reporting on the DMR, if a value is greater than the MDL, the permittee must report the actual value. If a value is less than the MDL, the permittee must report "less than {numeric MDL}" on the DMR. For purposes of calculating monthly averages, zero may be used for values less than the MDL.

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Table 1 - Outfall 001 Effluent Limitations and Monitoring Requirements

Table 1 - Outfall 001 Effluent Limitations and Monitoring Requirements							
Parameter	Units	Effluent Limitations				Monitoring Requirements	
		Thompson Creek flow <7 cfs ¹		Thompson Creek flow \$7 cfs ¹			
		Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Sample Frequency	Sample Type
Dilution Ratio ²	none	0.011	0.011	0.092	0.092	daily	calculation
Cadmium ³	ug/l	35	24	6.8	4.7	monthly	grab
Copper ³	ug/l	270	180	31	21	monthly	grab
Lead ³	ug/l	94	64	19	13	monthly	grab
Mercury ⁴	ug/l	0.46	0.32	0.073	0.050	monthly	grab
Selenium ³	ug/l	150 ⁷	110 ⁷	42 ⁷	30 ⁷	monthly	grab
Zinc ³	ug/l	1500	750	210	150	monthly	grab
Total Suspended Solids (TSS)	mg/l	30	20	30	20	weekly	grab
pH	s.u.	see Part I.A.3.		see Part 1.A.3.		weekly	grab
Outfall Flow	cfs	--	--	--	--	continuous	recording
Hardness, as CaCO ₃	mg/l	--	--	--	--	monthly	grab
Molybdenum ³	ug/l	--	--	--	--	quarterly	grab
Temperature	°C	--	--	--	--	weekly	grab
Acute Whole Effluent Toxicity ⁵	TU _a	--	--	--	--	annually	grab
Chronic Whole Effluent Toxicity ⁵	TU _c	--	--	--	--	annually	grab
Thompson Creek Flow ⁶	cfs	--	--	--	--	daily	recording

DRAFT

Table 1 - Outfall 001 Effluent Limitations and Monitoring Requirements**Footnotes:**

- 1 - The effluent limits will be determined by the flow in Thompson Creek directly upstream of the outfall location.
- 2 - The dilution ratio must be calculated by dividing the maximum daily outfall flow (in cfs) by the Thompson Creek flow (in cfs) directly upstream of the outfall location.
- 3 - These parameters must be analyzed and reported as total recoverable.
- 4 - Mercury must be analyzed and reported as total.
- 5 - See Part I.B. for whole effluent toxicity testing requirements.
- 6 - Thompson Creek flow must be representative of flow directly upstream of the outfall location. The permittee may measure flow directly upstream of the outfall, or measure flow at the USGS Thompson Creek gauge (#13297330) and subtract flows from outfalls 001 and 002 to obtain the upstream flow.
- 7 - The selenium limitation is effective beginning <4 years and 11 months from permit effective date>, consistent with Section I.G.

Table 2 - Outfall 002 Effluent Limitations and Monitoring Requirements

Parameter	Units	Effluent Limitations				Monitoring Requirements	
		Thompson Creek flow < 7 cfs ¹		Thompson Creek flow \$7 cfs ¹			
		Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Sample Frequency	Sample Type
Dilution Ratio ²	none	0.085	0.085	0.18	0.18	daily	calculation
Cadmium ³	ug/l	11	7.8	5.2	3.5	monthly	grab
Copper ³	ug/l	53	36	22	15	monthly	grab
Lead ³	ug/l	31	21	12	8.3	monthly	grab
Mercury ⁴	ug/l	0.077	0.053	0.047	0.032	monthly	grab
Selenium ³	ug/l	23 ⁷	16 ⁷	17 ⁷	11 ⁷	monthly	grab
Zinc ³	ug/l	290	200	220	150	monthly	grab
Total Suspended Solids (TSS)	mg/l	30	20	30	20	weekly	grab
pH	s.u.	see Part I.A.3.		see Part 1.A.3.		weekly	grab
Outfall Flow	cfs	--	--	--	--	continuous	recording
Hardness, as CaCO ₃	mg/l	--	--	--	--	quarterly	grab
Molybdenum ³	ug/l	--	--	--	--	quarterly	grab
Temperature	°C	--	--	--	--	weekly	grab
Acute Whole Effluent Toxicity ⁵	TU _a	--	--	--	--	annually	grab
Chronic Whole Effluent Toxicity ⁵	TU _c	--	--	--	--	annually	grab

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Table 2 - Outfall 002 Effluent Limitations and Monitoring Requirements							
Parameter	Units	Effluent Limitations				Monitoring Requirements	
		Thompson Creek flow < 7 cfs ¹		Thompson Creek flow \$7 cfs ¹			
		Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Sample Frequency	Sample Type
Thompson Creek Flow ⁶	cfs	--	--	--	--	daily	recording
Footnotes: 1 - The effluent limits will be determined by the flow in Thompson Creek directly upstream of the outfall location. 2 - The dilution ratio must be calculated by dividing the maximum daily outfall flow (in cfs) by the Thompson Creek flow (in cfs) directly upstream of the outfall location. 3 - These parameters must be analyzed and reported as total recoverable. 4 - Mercury must be analyzed and reported as total. 5 - See Part I.B. for whole effluent toxicity testing requirements. 6 - Thompson Creek flow must be representative of flow directly upstream of the outfall location. The permittee may measure flow directly upstream of the outfall, or measure flow at the USGS Thompson Creek gauge (#13297330) and subtract flow from Outfall 002 to obtain the upstream flow. 7 - The selenium limitation is effective beginning <4 years and 11 months from permit effective date>, consistent with Section I.G.							

Table 3 - Outfall 003 Monitoring Requirements			
Parameter	Units	Monitoring Requirements	
		Sample Frequency	Sample Type
Flow	mgd	daily	recording
Cadmium ¹	ug/l	monthly	grab
Copper ¹	ug/l	monthly	grab
Lead ¹	ug/l	monthly	grab
Mercury ²	ug/l	monthly	grab
Zinc ¹	ug/l	monthly	grab
Hardness, as CaCO ₃	mg/l	monthly	grab
Total Suspended Solids (TSS)	mg/l	weekly	grab
pH	s.u.	weekly	grab
Temperature	°C	weekly	grab
Turbidity ³	NTU	weekly from February 1 to June 30 and monthly from July 1 to January 31	recording

DRAFT

Table 3 - Outfall 003 Monitoring Requirements			
Parameter	Units	Monitoring Requirements	
		Sample Frequency	Sample Type
<div>Footnotes:</div> <div>1 - These parameters must be analyzed and reported as total recoverable.</div> <div>2 - Mercury must be analyzed and reported as total.</div> <div>3 - Turbidity must be monitored above and below the Bruno Creek settling ponds (at BC-1 and Outfall 003).</div>			

Table 4 - Outfall 004 Effluent Limitations and Monitoring Requirements							
Parameter	Units	Effluent Limitations				Monitoring Requirements	
		Squaw Creek flow <50 cfs ¹		Squaw Creek flow ≥50 cfs ¹			
		Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Sample Frequency	Sample Type
Cadmium ²	ug/l	12	5.8	26	13	weekly	composite
	lb/day	0.084	0.041	0.18	0.091		
Chromium-VI ²	ug/l	40	20	--	--	weekly	composite
	lb/day	0.28	0.14	--	--		
Copper ²	ug/l	48	24	120	58	weekly	composite
	lb/day	0.34	0.17	0.84	0.41		
Lead ²	ug/l	37	18	21	10	weekly	composite
	lb/day	0.26	0.13	0.15	0.070		
Mercury ³	ug/l	0.037	0.018	0.21	0.10	weekly	composite
	lb/day	0.00026	0.00013	0.0015	0.00070		
Silver ²	ug/l	--	--	22	11	weekly	composite
	lb/day	--	--	0.15	0.077		
Zinc ²	ug/l	290	140	860	430	weekly	composite
	lb/day	2.0	0.98	6.0	3.0		
Total Suspended Solids (TSS)	mg/l	30	20	30	20	weekly	composite
pH	s.u.	see Part 1.A.3.		see Part 1.A.3.		daily	grab
Outfall Flow	cfs	--	--	--	--	continuous	recording
Hardness, as CaCO ₃	mg/l	--	--	--	--	weekly	composite
Molybdenum ²	ug/l	--	--	--	--	quarterly	composite

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Table 4 - Outfall 004 Effluent Limitations and Monitoring Requirements							
Parameter	Units	Effluent Limitations				Monitoring Requirements	
		Squaw Creek flow <50 cfs ¹		Squaw Creek flow \$50 cfs ¹		Sample Frequency	Sample Type
		Maximum Daily	Average Monthly	Maximum Daily	Average Monthly		
Temperature	°C	--	--	--	--	weekly	grab
Acute Whole Effluent Toxicity ⁴	TU _a	--	--	--	--	annually	composite
Chronic Whole Effluent Toxicity ⁴	TU _c	--	--	--	-	quarterly	composite
Squaw Creek Flow ⁵	cfs	--	--	--	--	daily	recording
Footnotes: 1 - The effluent limits will be determined by the flow in Squaw Creek directly upstream of the outfall location. 2 - These parameters must be analyzed and reported as total recoverable. 3 - Mercury must be analyzed and reported as total. 4 - See Part I.B. for whole effluent toxicity testing requirements. 5 - Squaw Creek flow must be representative of flow directly upstream of the outfall location. The permittee may measure flow directly upstream of the outfall, or measure flow at the USGS Squaw Creek gauge (#13297355) and subtract flow from Outfall 004 to obtain the upstream flow.							

Table 5 - Outfall 005 Effluent Limitations and Monitoring Requirements					
Parameter	Units	Effluent Limitations		Monitoring Requirements	
		Maximum Daily	Average Monthly	Sample Frequency	Sample Type
Cadmium ¹	ug/l	12	6.2	weekly	composite
	lb/day	0.17	0.090		
Copper ¹	ug/l	120	59	weekly	composite
	lb/day	1.7	0.86		
Lead ¹	ug/l	21	10	weekly	composite
	lb/day	0.30	0.15		
Mercury ²	ug/l	0.61	0.30	weekly	composite
	lb/day	0.0089	0.0044		
Silver ¹	ug/l	12	6.0	weekly	composite
	lb/day	0.17	0.087		
Zinc ¹	ug/l	1000	500	weekly	composite
	lb/day	15	7.3		
Total Suspended Solids (TSS)	mg/l	30	20	weekly	composite
pH	s.u.	see Part 1.A.3.		daily	grab

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Table 5 - Outfall 005 Effluent Limitations and Monitoring Requirements					
Parameter	Units	Effluent Limitations		Monitoring Requirements	
		Maximum Daily	Average Monthly	Sample Frequency	Sample Type
Outfall Flow	cfs	--	--	continuous	recording
Hardness, as CaCO ₃	mg/l	--	--	weekly	composite
Molybdenum ¹	ug/l	--	--	quarterly	composite
Selenium ¹	ug/l	--	--	quarterly	composite
Temperature	°C	--	--	weekly	grab
Acute Whole Effluent Toxicity ³	TU _a	--	--	annually	composite
Chronic Whole Effluent Toxicity ³	TU _c	--	--	quarterly	composite
Footnotes: 1 - These parameters must be analyzed and reported as total recoverable. 2 - Mercury must be analyzed and reported as total. 3 - See Part I.B. for whole effluent toxicity testing requirements.					

B. Whole Effluent Toxicity Testing Requirements. The permittee must conduct acute and chronic toxicity tests on effluent samples from outfalls 001, 002, 004, and 005. Testing must be conducted in accordance with subsections 1 through 8, below.

1. Toxicity testing must be conducted on grab samples of effluent from outfalls 001 and 002 and on 24-hour composite samples of effluent from outfalls 004 and 005. In addition, a split of each sample collected must be analyzed for the chemical and physical parameters required in Part I.A above. When the timing of sample collection coincides with that of the sampling required in Part I.A, analysis of the split sample will fulfill the requirements of Part I.A. as well.
2. Acute Test Species and Methods
 - a. Acute tests must be conducted once per year in June. The effluent collected for toxicity testing must be collected at the same time as the receiving water surface water monitoring (see Part I.C.).
 - b. The permittee must conduct 96-hour static renewal tests with the rainbow trout (*Oncorhynchus mykiss*).

DRAFT

- c. The presence of acute toxicity must be determined as specified in *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*, Fourth Edition, EPA/600-4-90-027F, August 1993.
 - d. Acute toxicity test results must be reported in TU_a (acute toxic units), where $TU_a = 100/LC_{50}$ (in percent effluent). See Part VI. for a definition of LC_{50} .
3. Chronic Test Species and Methods
- a. For outfalls 001 and 002, chronic tests must be conducted once per year in June. For outfalls 004 and 005, chronic tests must be conducted four times per year during spring low flow (April), spring high flow (June), summer low flow (August), and fall low flow (October). For all outfalls, the effluent collected for toxicity testing must be collected at the same time as the receiving water surface water monitoring (see Part I.C.).
 - b. The permittee must conduct short-term tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test), and the fathead minnow, *Pimephales promelas* (larval survival and growth test), for the first three suites of tests. After this screening period, monitoring shall be conducted using the most sensitive species.
 - c. The presence of chronic toxicity must be determined as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Third Edition, EPA/600-4-91-002, July 1994.
 - d. Results must be reported in TU_c (chronic toxic units), where $TU_c = 100/NOEC$. See Part VI. for a definition of NOEC.
4. Toxicity Triggers. For the purposes of determining compliance with paragraphs I.B.6. and I.B.7., the acute toxicity trigger is defined as toxicity exceeding 1 TU_a . The chronic toxicity trigger is defined as toxicity exceeding the trigger values in Table 6.

Table 6: Chronic Toxicity Triggers and Receiving Water Concentrations		
Outfall	Chronic Toxicity Trigger, TU_c	Receiving Water Concentration (RWC), % effluent
001 at Thompson Creek flow < 7 cfs	91	1.1

DRAFT

001 at Thompson Creek flow \$ 7 cfs	12	8.4
002 at Thompson Creek flow < 7 cfs	13	7.9
002 at Thompson Creek flow \$ 7 cfs	6.7	15
004 at Squaw Creek flow < 50 cfs	4.5	22
004 at Squaw Creek flow \$ 50 cfs	40	2.5
005	120	0.83

5. Quality Assurance

- a. The toxicity testing on each organism must include a series of five test dilutions and a control as follows:
 - i) The acute series must range from 0% to 100% effluent.
 - ii) The chronic series must include: the receiving water concentration (RWC), which is the dilution associated with the chronic toxicity trigger; two dilutions above the RWC, and; two dilutions below the RWC. The RWCs for each outfall are provided in Table 6, above.
- b. All quality assurance criteria and statistical analyses used for acute tests and reference toxicant tests must be in accordance with *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*, Fourth Edition, EPA/600-4-90-027F, August 1993 and the individual test protocol.

All quality assurance criteria and statistical analyses used for chronic tests and reference toxicant tests must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Third Edition, EPA/600-4-91-002, July 1994, and individual test protocols.

- c. In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be followed:
 - i) If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. If organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference

DRAFT

toxicant tests must be conducted using the same test conditions as the effluent toxicity tests.

- ii) If either of the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, the permittee must re-sample and re-test within 14 days of receipt of the test results.
- iii) Control and dilution water must be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water must also be used. Receiving water may be used as control and dilution water upon notification of EPA and IDEQ. In no case shall water that has not met test acceptability criteria be used for either dilution or control.

6. Accelerated Testing.

- a. If acute or chronic toxicity is detected above the triggers specified in paragraph B.4., the permittee must conduct four (see also Part B.6.d., below) more biweekly tests over an eight week period. This accelerated testing must be initiated within two weeks of receipt of the test results that indicate an exceedence.
- b. The permittee must notify EPA of the exceedence in writing within two weeks of receipt of the test results. The notification must include the following information:
 - i) A status report on any actions required by the permit, with a schedule for actions not yet completed.
 - ii) A description of any additional actions the permittee has taken or will take to investigate and correct the cause(s) of the toxicity.
 - iii) Where no actions have been taken, a discussion of the reasons for not taking action.

DRAFT

- c. If none of the four accelerated tests exceed the trigger, the permittee may return to the normal testing frequency. If any of the four tests exceed the trigger, then the TRE requirements in Part I.B.7. shall apply.
 - d. Initial Investigation. If the permittee demonstrates through an evaluation of facility operations that the cause of the exceedence is known and corrective actions have been implemented, only one accelerated test is necessary. If toxicity exceeding the trigger is detected in this test, then the TRE requirements in Part I.B.7. shall apply.
7. Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE):
- a. If acute or chronic toxicity triggers are exceeded during accelerated testing under Part I.B.6., the permittee must initiate a toxicity reduction evaluation (TRE) in accordance with *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070) within two weeks of the exceedence. At a minimum, the TRE must include:
 - i) Further actions to investigate and identify the cause of toxicity;
 - ii) Actions the permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
 - iii) A schedule for these actions.
 - b. If a TRE is initiated prior to completion of the accelerated testing, the accelerated testing schedule may be terminated, or used as necessary in performing the TRE.
 - c. The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of the TRE process. Any TIE must be performed in accordance with EPA guidance manuals, *Toxicity Identification Evaluation; Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F), *Methods for Aquatic Toxicity Identification Evaluations, Phase II: Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080), and *Methods for Aquatic Toxicity Identification Evaluations, Phase III: Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA-600/R-92/081).

DRAFT

8. Reporting

- a. The permittee must submit the results of the toxicity tests with the discharge monitoring reports (DMR) for the month following sample collection.
- b. The permittee must submit the results of any accelerated testing, under Part I.B.6., within 2 weeks of receipt of the results from the lab. The full report must be submitted within 4 weeks of receipt of the results from the lab. In an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, the result of the investigation must be submitted with the DMR for the month following completion of the investigation.
- c. The report of toxicity test results must include all relevant information outlined in Section 10, Report Preparation, of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Third Edition, EPA/600-4-91-002, July 1994. In addition to toxicity test results, the permittee must report: dates of sample collection and initiation of each test; the toxicity triggers as defined in paragraph B.4.; flow rate at the time of sample collection; and the results of the monitoring required in Part I.A.

C. Surface Water Monitoring. The permittee must perform the following receiving water monitoring program to monitor changes that may occur as a result of activities associated with the discharges from the facility.

1. The permittee must conduct surface water monitoring four times per year during spring low flow (April), spring high flow (June), summer low flow (August), and fall low flow (October) at the following established monitoring stations.
 - a. Thompson Creek monitoring stations TC-1, TC-2, TC-3, and TC-4.
 - b. Squaw Creek monitoring stations SQ-2 and SQ-3.
 - c. Salmon River monitoring stations SR-1 and SR-3. When there is no discharge from both outfalls 004 and 005 monitoring shall be four times per year, as specified above. When there is a discharge from outfalls 004 or 005, the Salmon River stations must be monitored monthly according to paragraph 5., below.

DRAFT

2. All ambient samples must be grab samples.
3. All quarterly samples must be analyzed for the parameters listed in Table 7 to achieve method detection limits (MDLs) that are equivalent to or less than those listed in Table 7. The permittee may request different MDLs. Such a request must be in writing and must be approved by EPA.

Table 7: Receiving Water Monitoring Parameters and MDLs		
Parameter	Units	Method Detection Limit (MDL)
Cadmium, dissolved	ug/l	0.1
Chromium-VI ¹ , dissolved	ug/l	4
Copper, dissolved	ug/l	1
Lead, dissolved	ug/l	0.1
Mercury, total	ug/l	0.001
Molybdenum, total recoverable	ug/l	4
Selenium ² , total recoverable	ug/l	2
Silver ³ , dissolved	ug/l	0.1
Zinc, dissolved	ug/l	10
Total Suspended Solids (TSS)	mg/l	--
pH	standard units	--
Temperature	°C	--
Turbidity	NTU	--
Hardness	mg/l CaCO ₃	--
Dissolved Oxygen	mg/l	--
Footnotes:		
1 - Monitoring for chromium-VI is required for the Squaw Creek stations only.		
2 - Monitoring for selenium is required for the Thompson Creek and Salmon River stations only.		
3 - Monitoring for silver is required for the Squaw Creek and Salmon River stations only.		

4. Streamflow of Thompson Creek upstream of outfall 001 and upstream of outfall 002 and streamflow of Squaw Creek upstream of outfall 004 must be determined daily according to requirements in Section I.A. (Tables 1, 2, and 4). In addition, streamflow of the Salmon River upstream of outfall 005 must be determined daily.

DRAFT

5. Special Resource Water Monitoring. When there is a discharge from outfall 004 or 005, the permittee must sample stations SR-1 and SR-3 monthly during a time when there is a discharge from the outfalls as follows.
 - a. The samples collected in April, June, August, and October must be analyzed for all the parameters in Table 7 using test methods to achieve the MDLs in Table 7.
 - b. The samples collected during the other months must be analyzed for cadmium, copper, lead, mercury, selenium, silver, and zinc to achieve the MDLs in Table 7. For these metals, at least four times annually when discharging from outfalls 004 or 005, the Salmon River monitoring must include adequate sample replication with an objective to detect a 25% change in the assimilative capacity between the upstream and downstream samples with a statistical Type I (") error no greater than 0.05 and a statistical Type II (\$) error no greater than 0.25. Eight replicates collected across the width of the river are necessary to meet this test, unless the permittee demonstrates otherwise using a statistical sample power calculation and actual sample variability. The Idaho Division of Environmental Quality's (IDEQ) CWA Section 401 Certification contains information on how to perform this calculation.
6. Comparison to Chronic Criteria. For each monitoring event, the permittee must compare the results of the monitoring for metals to the chronic criteria concentrations and potentially revise subsequent sample collection as follows.
 - a. The chronic criteria concentration is defined as the State of Idaho water quality criteria for chronic protection of aquatic life. The permittee must determine and report the chronic criteria for each metal monitored. For those chronic criteria that are calculated based on hardness, the hardness determined at the time of sampling must be used to calculate the chronic criteria.
 - b. If the monitoring results show that any chronic criteria concentration is exceeded, then at the next scheduled monitoring, sampling and analysis for the parameter that exceeded the criterion at that sampling station must be expanded to determine the 4-day average concentration as follows.
 - i) The 4-day average concentration must be calculated based on at least one grab sample per day for 4 consecutive days.

DRAFT

- ii) If the 4-day average concentration also exceeds the chronic criterion, then all further monitoring for that parameter must be sampled and reported as 4-day average concentrations. If the 4-day average concentration does not exceed criterion, then the permittee may return to collecting single grab samples.
 - 7. Quality assurance/quality control plans for all the monitoring must be documented in the Quality Assurance Plan required under Part I.F.
 - 8. Surface water monitoring results must be submitted to EPA and IDEQ with the DMR for the month following sample collection. At a minimum, the report must include the following:
 - a. Dates of sample collection and analyses.
 - b. Results of sample analysis.
 - c. Relevant quality assurance/quality control (QA/QC) information.
 - d. The chronic criteria at the time of sampling, calculated according to Part 6.a., and identification of those parameters that exceed the criteria.
 - e. The results of statistical testing conducted for the Special Resource Water Monitoring under paragraph 5.b., above.
 - 9. All monitoring results must be included in an Annual Water Quality Monitoring Summary report and submitted along with the January DMR for the next year. The report must include a presentation of the analytical results and an evaluation of the results. The evaluation must include a comparison of upstream and downstream monitoring results (to show any differences) and a comparison of monitoring results for each station over time (to show any trends). The IDEQ CWA Section 401 Certification contains recommendations for statistical evaluation of the Special Resource Water Monitoring. The Annual report may reference the monthly reports for QA/QC information.
- D. Bioassessment Program.** The permittee must perform the following bioassessment program yearly to monitor and evaluate changes that may occur as a result of activities associated with the discharges from the facility. The permittee must submit a Bioassessment Program Plan which achieves the objectives and specific requirements below. The Bioassessment Program Plan must be submitted to EPA and IDEQ for review within 60 days of the effective date of the permit.
- 1. The permittee must monitor the receiving waters for benthic macroinvertebrates and periphyton annually and for fish bi-annually. The monitoring must be

DRAFT

conducted during minimum stable flows between August and October at the following locations.

- a. Thompson Creek monitoring must occur in the vicinity of monitoring stations TC-1 and TC-4 (upstream and downstream of outfalls 001 and 002).
 - b. Squaw Creek monitoring must occur in the vicinity of monitoring stations SQ-2 and SQ-3 (upstream and downstream of outfalls 003 and 004).
 - c. Salmon River monitoring must occur in the vicinity of monitoring stations SR-1 and SR-3 (upstream and downstream of outfall 005).
2. The benthic macroinvertebrate monitoring must be performed using protocols recommended by IDEQ. These protocols include stratifying sampling units to similar riffle habitats using a Slack sampler with 500-um mesh, three replicates, and identifying organisms to the lowest practical level.
 3. The permittee must monitor and analyze each assemblage according to Table 8.

Table 8: Receiving Water Bioassessment Program Requirements		
Parameter	Measurement Endpoint	Analysis ¹
Benthic Macroinvertebrates	Invertebrate River Index (Multimetric Index)	Calculate scores
	Abundance and taxa richness of <i>Ephemeroptera</i>	Hypothesis and trends testing ²
Periphyton	Diatom index of biotic integrity (multimetric index) ³	Calculate scores ³
Fish	Multimetric index	Calculate scores
	Presence and relative abundance of species	Hypothesis and trends testing ²
Footnotes: 1 - The IDEQ CWA Section 401 Certification provides recommendations regarding how to analyze and interpret the results of the bioassessment monitoring. 2 - Hypothesis and trends testing must be performed consistent with past analyses reported in annual aquatic biological surveys submitted by the Thompson Creek Mining Company. 3 - The diatom index of biotic integrity must be determined for the Salmon River stations. The applicability of this index to smaller creeks is currently untested, therefore, for the Thompson Creek and Squaw Creek stations, the permittee must determine and provide descriptive or exploratory statistics of diatom species in these creeks.		

DRAFT

4. Quality assurance/quality control plans for the bioassessment monitoring must be documented in the Bioassessment Program Plan. The QA/QC plans must be prepared in accordance with the requirements under Part I.F.
5. Data Interpretation and Further Actions. If the results of bioassessment testing using hypothesis tests indicate downstream differences in comparison to the upstream station or declining trends over time, then the permittee must undertake an investigation to identify and remedy the cause. The IDEQ CWA Section 401 Certification contains recommendations for additional investigations and evaluations. A plan for conducting the additional investigations must be submitted to EPA and IDEQ within 30 days of the determination of the need for additional investigations. The permittee must implement the plan within 60 days of the determination.
6. The permittee must submit an Annual Bioassessment Monitoring Report to EPA and IDEQ by April 15 of the next year. At a minimum, the report must include the following:
 - a. Dates of bioassessment sampling.
 - b. Relevant QA/QC information.
 - c. Presentation and evaluation of results according to Table 8. The evaluation must include a comparison of upstream and downstream monitoring results (to show any differences) and a comparison of monitoring results for each station over time (to show any trends).
 - d. Results of any additional investigations conducted under paragraph 5., above.

DRAFT

E. Bioaccumulation Study. The permittee must conduct a bioaccumulation study to determine whether exposure to mercury or selenium through bioaccumulation poses a risk of adverse effects to aquatic life in Thompson Creek. The permittee must submit a Bioaccumulation Study Plan which achieves the objectives and specific requirements below. The Bioaccumulation Study Plan must be submitted to EPA and IDEQ for review within 60 days of the effective date of the permit. The bioaccumulation study must be implemented within one year of the effective date of the permit.

1. The permittee must monitor the mercury and selenium concentrations in water, sediment, *aufwuchs* (periphyton and abiotic material embedded in the periphyton), macroinvertebrates, and sculpin or trout upstream and downstream of mine discharges to Thompson Creek (in the vicinity of TC-1 and TC-4). Monitoring must be conducted on a sufficient number of samples to meet the objectives in paragraph 2., below.
2. The specific objectives of the bioaccumulation study are to make the following determinations.
 - a. Statistical significance. For each media, the permittee must determine whether the concentrations of mercury and selenium downstream are statistically higher than concentrations upstream. This determination must be based on hypothesis testing between upstream and downstream sites using a t-test, Mann-Whitney test, or other appropriate statistical test, with a Type I (") error no greater than 0.05.
 - b. Biological meaningfulness. The permittee must assess the biological meaningfulness of the data collected under paragraph 1., above, by comparing the whole body mercury concentrations in sculpin or trout to the biological screening level of 0.3 mg/kg wet weight and the dry weight concentrations of selenium in the food chain to the biological screening levels shown in Table 9.

Table 9: Selenium Biological Screening Levels	
Media	Selenium Concentration (mg/kg dry weight)
Sediment	3.5
<i>Aufwuchs</i>	4.0
Macroinvertebrates (community composite)	4.0
Forage fish (sculpins) (whole body)	4.0

DRAFT

Salmonid (whole body)	4.0
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3. Sediment samples must be collected whole to mimic biota exposure. Sediment samples must be collected from the top 2 centimeters of depositional areas in pools or margins with fine-grained surface sediments.
4. Quality assurance/quality control plans for the bioaccumulation monitoring must be documented in the Bioaccumulation Study Plan. The QA/QC plans must be prepared in accordance with the requirements under Part I.F.
5. Data Interpretation and Further Actions.
 - a. If the results of paragraph 2.a. indicate that concentrations are statistically higher downstream than upstream of the mine discharges, or if the mercury or selenium concentrations exceed the levels specified in Part 2.b., then the permittee must undertake an investigation to identify and remedy the cause. The IDEQ CWA Section 401 Certification contains recommendations for additional investigations and evaluations. A plan for conducting the additional investigations must be submitted to EPA and IDEQ within 30 days of the determination of the need for additional investigations. The permittee must implement the plan within 90 days of the determination of the need for additional investigations.
 - b. If the results of paragraph 2.a. indicate that concentrations are not statistically higher downstream than upstream of the mine discharges and the mercury and selenium concentrations do not exceed the levels specified in Part 2.b., then no further bioaccumulation investigations need be performed.
6. The permittee must submit a Bioaccumulation Study Report to EPA and IDEQ by **<insert date one year after the effective date of the permit>**. The report must include the following:
 - a. Dates of sampling and analyses.
 - b. The analytical results.
 - c. Relevant QA/QC information.
 - d. An evaluation of the results that specifically addresses the objectives under paragraph 2., above.
 - e. Results of any additional investigations conducted under paragraph 5., above.

DRAFT

- F. Quality Assurance Plan (QAP).** The permittee must develop a quality assurance plan (QAP) for all monitoring required by this permit. The plan must be submitted to EPA and IDEQ for review within 60 days of the effective date of this permit and implemented within 120 days of the effective date of this permit. Any existing QAPs may be modified for submittal under this section.
1. The QAP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and in explaining data anomalies when they occur.
 2. Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAP must be prepared in the format which is specified in these documents.
 3. At a minimum, the QAP must include the following:
 - a. Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements.
 - b. Map(s) indicating the location of each sampling point.
 - c. Qualification and training of personnel.
 - d. Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the permittee.
 4. The permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.
 5. Copies of the QAP must be kept on site and made available to EPA and/or IDEQ upon request.
- G. Selenium Schedule of Compliance.**

DRAFT

1. The permittee must achieve compliance with the selenium limitations of Part I.A.1. (Tables 1 and 2), by **<insert date 4 years and 11 months from permit effective date>**.
2. Until compliance with the effluent limits is achieved, at a minimum, the permittee must complete the tasks and reports listed in Table 9.

Table 9: Tasks Required Under the Schedule of Compliance for Selenium		
Task No.	Due at End of Year	Task Activity
1	1	<p>Source investigation. The permittee must investigate the sources, extent, transport, and fate of selenium in outfalls 001 and 002. At a minimum, the investigation must include: 1) determination of the origin and host rock of the selenium; 2) investigation of the mechanisms liberating the selenium from the source rock and introducing it into the effluents of outfalls 001 and 002; and 3) use of the EPA MINTEQA2 model, or other suitable aqueous geochemical speciation model, to predict selenium speciation in water.</p> <p>Deliverable: The permittee must prepare a progress report of findings, and recommendations for further actions to reduce selenium concentrations.</p>
2	1	Bioaccumulation study. The receiving water bioaccumulation study requirements are defined in Section I.E., above.
3	2	<p>Feasibility study. The permittee must investigate the feasibility of measures to reduce selenium in outfalls 001 and 002 to meet the effluent limits. At a minimum, the following measures must be evaluated: 1) water management such as diversions and drainage ditches; 2) isolation of source areas by encapsulation; 3) waste rock management; and 4) improving the existing sediment pond or adding additional treatment. "Feasibility" is defined to include effectiveness, implementability, and cost. Evaluations should consider short- and long-term aspects of: 1) effectiveness of the measures (e.g., reduction of toxicity or mobility, affords long-term protection, minimizes short term environmental impacts, and complies with effluent limits); 2) implementability of the measures (e.g., technical feasibility); and 3) costs.</p> <p>Readily implementable measures must be designed and constructed as soon as feasible. Measures that are more technically difficult or have more unknowns may need further investigations.</p> <p>Deliverable: The permittee must submit: 1) A report of the findings on the feasibility of measures; and 2) Design documents and/or construction completion reports for those measures that are readily implemented.</p>
4 ¹	3	<p>Design and construction. The permittee must construct measures to reduce selenium discharges from outfalls 001 and 002 to achieve the effluent limits.</p> <p>Deliverable: The permittee must submit construction completion reports, and/or progress reports if more technically difficult or unknown conditions prevent completion.</p>
5 ¹	4	Continued design and construction.
6 ¹	4 years and 11 months	Construction completion and operating such that effluent limits are achieved.

DRAFT

Table 9: Tasks Required Under the Schedule of Compliance for Selenium		
Task No.	Due at End of Year	Task Activity
Footnotes: 1 - Tasks scheduled past Year 2 are listed in anticipation of potential unknown conditions. The permittee does not need to complete these later tasks if compliance with the effluent limits is achieved sooner.		

3. The permittee must submit an Annual Report of Progress which outlines the progress made towards reaching the compliance date for the selenium effluent limitations. The annual Report of Progress must be submitted by **<insert date one year after effective date of permit>** of each year. The first report is due **<insert date one year after effective date of permit>** and annually thereafter, until compliance with the selenium effluent limits is achieved. At a minimum, the annual report must include:
 - a. An assessment of the previous year of selenium data and comparison to the effluent limitations.
 - b. A report on progress made towards meeting the effluent limitations, including the applicable deliverable required under paragraph 2 (Table 9).
 - c. Further actions and milestones targeted for the upcoming year.

II. BEST MANAGEMENT PRACTICES PLAN

- A. **Purpose.** Through implementation of the best management practices (BMP) plan the permittee must prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal and ancillary activities. The BMP Plan must apply to all the components and facilities associated with the Thompson Creek Mine.
- B. **Development and Implementation Schedule.** The permittee must develop and implement a BMP Plan which achieves the objectives and the specific requirements listed below. A copy of the BMP Plan must be submitted to EPA and IDEQ within 120 days of the effective date of the permit. Any existing BMP plans may be modified for submittal and approval under this section. The permittee must implement the provisions of the plan as conditions of this permit within 180 days of the effective date of this permit.

DRAFT

C. Objectives. The permittee must develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.

1. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharges at the facility must be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.
2. Under the BMP Plan and any Standard Operating Procedures included in the BMP Plan, the permittee must ensure proper operation and maintenance of water management and wastewater treatment systems. BMP Plan elements must be developed in accordance with good engineering practices.
3. Each facility component or system must be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination must include all normal operations and ancillary activities including material storage areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.

D. Elements of the BMP Plan. The BMP Plan must be consistent with the objectives above and the general guidance contained in *Guidance Manual for Developing Best Management Practices* (EPA 833-B-93-004, October 1993) and *Storm Water Management For Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006) or any subsequent revision to these guidance documents. The BMP Plan must include, at a minimum, the following items:

1. Statement of BMP policy. The BMP Plan must include a statement of management commitment to provide the necessary financial, staff, equipment, and training resources to develop and implement the BMP Plan on a continuing basis.
2. Structure, functions, and procedures of the BMP Committee. The BMP Plan must establish a BMP Committee responsible for developing, implementing, and maintaining the BMP Plan.
3. Description of Activities. The BMP Plan must provide a description of the activities taking place at the site which affect or may affect storm water runoff

DRAFT

or which may result in the discharge of pollutants to surface waters during dry weather.

4. Description of Potential Pollutant Sources. The BMP Plan must identify all activities and significant materials which may potentially be significant storm water pollutant sources or may result in the discharge of pollutants during dry weather. The BMP Plan must include at a minimum:
 - a. Drainage:
 - i) A site topographic map that indicates site boundaries, access and haul roads; location of storm water outfalls and outlines of drainage areas; storage and maintenance areas for equipment, fuel, chemicals, and explosives; materials handling areas; areas used for storage of overburden, materials, soils, tailings, or wastes; location and points of permitted discharges; and, springs, streams, wetlands and other surface waters.
 - ii) For each area of the site that generates storm water discharges or may result in the discharge of pollutants during dry weather (e.g., a tank overflow or leakage), the permittee must provide a prediction of the direction of flow and an identification of the types of pollutants which are likely to be present in discharges.
 - b. Inventory of Exposed Materials. The BMP Plan must include an inventory of the types of materials handled at the site that potentially may be exposed to precipitation. The inventory must include a description of the exposed materials; method and location of onsite storage and disposal; and materials management practices employed to minimize contact with storm water runoff and reduce pollutants in storm water runoff.
 - c. Spills and Leaks. The BMP Plan must include a list of significant spills and leaks of toxic or hazardous pollutants that drain to a permitted outfall, a storm water conveyance, or otherwise drain to surface waters. The list must include significant spills or leaks occurring three years prior to the effective date of this permit and must be updated as appropriate during the term of the permit.
 - d. Risk Identification and Summary of Potential Pollutant Sources. The BMP Plan must identify all activities, sites, and significant materials which may potentially be pollutant sources. The description must

DRAFT

specifically list any potential source of pollutants at the site, and for each pollutant source, pollutant(s) or pollutant parameter(s) of concern must be identified.

5. Measures and Controls. The permittee must develop a description of pollution prevention controls, BMPs, and other measures appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in the BMP Plan must reflect identified potential sources of pollutants at the facility. The description of management controls must address the following minimum components:
 - a. Good Housekeeping. Good housekeeping requires the maintenance of areas which may contribute pollutants to surface waters.
 - b. Preventative Maintenance. A preventative maintenance program must be developed that includes inspection and maintenance of wastewater and storm water management devices, inspection and testing of facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment systems
 - c. Spill Prevention and Response Procedures. Areas where spills could result in the discharge of pollutants must be identified clearly in the BMP Plan. The description of each area must include procedures for spill prevention and procedures for cleaning up spills.
 - d. Sediment and Erosion Control. The BMP Plan must identify areas that have a high potential for significant erosion of soil and/or other materials and identify BMPs and other measures to be used to limit erosion and/or remove sediment from storm water runoff.
 - e. Management of Runoff. The BMP Plan must address the appropriateness of traditional storm water management practices (practices other than those that control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The BMP Plan must include provisions for implementation and maintenance of such measures that the permittee determines to be reasonable and appropriate.

DRAFT

- f. Treatment. The BMP Plan must provide a description of how wastewater and storm water will be treated prior to discharging to waters of the United States, if treatment is necessary.
 - g. Inspections and Comprehensive Site Compliance Evaluations. The BMP Plan must include provisions for qualified personnel to inspect BMPs and designated equipment and facility areas at least on a monthly basis, however, inspections are not required when adverse weather conditions make a location inaccessible. Inspections must include, at a minimum, all material handling and storage areas, wastewater and storm water control and containment structures, and erosion control systems. Records of inspection must be maintained. The BMP Plan must also include provisions for conducting comprehensive site compliance evaluations (Part III.D., below).
 - h. Employee Training. The BMP Plan must outline employee training programs related to implementation of the BMP Plan and specify how often training will take place.
 - i. Recordkeeping and Internal Reporting Procedures. The following must be documented and incorporated into the BMP Plan: a description of incidents (such as spills, or other discharges), description of the quantity and quality of storm water discharges, inspections, maintenance activities, and training sessions.
6. Specific Best Management Practices. The BMP Plan must establish specific BMPs or other measures which ensure that the following specific requirements are met:
- a. Solids, sludges, or other pollutants removed in the course of treatment or control of water and wastewaters must be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.
 - b. Ensure proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA). Management practices required under RCRA regulations must be referenced in the BMP Plan.
 - c. Ensure proper management of materials in accordance with Spill Prevention, Control, and Countermeasure (SPCC) plans under Section 311

DRAFT

of the Act and 40 CFR Part 112. The BMP Plan may incorporate any part of such plans into the BMP Plan by reference.

- E. Comprehensive Site Compliance Evaluation.** Qualified personnel must conduct comprehensive site compliance evaluations at appropriate intervals specified in the BMP Plan, but in no case less than twice a year. Such evaluations must include:
1. **Site Evaluation.** Areas contributing to wastewater and storm water discharges and areas susceptible to leaks or spills must be visually inspected for evidence of, or the potential for, pollutants entering the permitted outfalls, storm water drainage system, or surface waters. Structural and non-structural BMPs and other measures to reduce pollutant loadings must be evaluated to determine whether they are adequate and properly implemented. Inspection of equipment needed to implement the BMP Plan, such as spill response equipment, must be made.
 2. **Corrective Action.** Based on results of the site evaluation and inspection, the BMP Plan must be revised, as appropriate, within 30 days of such inspection and must provide for implementation of any changes to the BMP Plan in a timely manner, but in no case more than 90 days after the inspection.
- F. Annual Report and Certification.** The permittee must prepare an annual report and certification that must be submitted to EPA and IDEQ by January 31 of each year.
1. **Annual Report.** The permittee must prepare an annual report summarizing the comprehensive site evaluations and inspections performed during the year. The report must include the scope and dates of the inspections/evaluations, major observations related to implementation of the BMP Plan, corrective actions taken as a result of the inspections/evaluations, description of the quantity and quality of storm water discharged, and BMP Plan modifications made during the year. The report must also identify any incidents of non-compliance. Where a report does not identify any incidents of noncompliance, the report must contain the certification under paragraph F.2., below.
 2. **Annual Certification.** The permittee must prepare a certified statement that the above reviews (inspections and evaluations) have been completed and that the BMP Plan fulfills the requirements set forth in the permit. This statement must be signed in accordance with Part V.E. (Signatory Requirements) of this permit. This statement must be submitted to EPA with the Annual Report on or before January 31st of each year of operation under this permit after the initial BMP

DRAFT

submittal (the initial statement must be submitted to EPA six months after submittal of the BMP Plan).

G. Documentation. The permittee must maintain a copy of the BMP Plan at the facility and make it available to EPA or an authorized representative upon request.

H. BMP Plan Modification.

1. The permittee must amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to surface waters.
2. The permittee must amend the BMP Plan whenever it is found to be ineffective in achieving the general objective of preventing and minimizing the generation and the potential for the release of pollutants from the facility to the waters of the United States and/or the specific requirements above.
3. Any changes to the BMP Plan must be consistent with the objectives and specific requirements listed above. All changes in the BMP Plan must be reported to EPA in the Annual Report required under Part F., above.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling (Routine and Non-Routine Discharges). Samples and measurements must be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters limited in Part I.A. of this permit that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with paragraph III.C ("Monitoring Procedures"). The permittee must report all additional monitoring in accordance with paragraph III.D ("Additional Monitoring by Permittee").

DRAFT

- B. Reporting of Monitoring Results.** The permittee must summarize monitoring results each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1) or equivalent. The permittee must submit reports monthly, postmarked by the 10th day of the following month. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E. of this permit ("Signatory Requirements"). The permittee must submit the legible originals of these documents to the Director, Office of Water, with copies to IDEQ at the following addresses:

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-133
Seattle, Washington 98101

Idaho Division of Environmental Quality
Idaho Falls Regional Office
900 North Skyline, Suite B
Idaho Falls, Idaho 83402

- C. Monitoring Procedures.** Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit.
- D. Additional Monitoring by Permittee.** If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR.

Upon request by the Director, the permittee must submit results of any other sampling, regardless of the test method used.

- E. Records Contents.** Records of monitoring information must include:

1. the date, exact place, and time of sampling or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the date(s) analyses were performed;
4. the name(s) of the individual(s) who performed the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

DRAFT

F. Retention of Records. The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director or IDEQ at any time.

G. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee must report the following occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances:
 - a. any noncompliance that may endanger health or the environment;
 - b. any unanticipated bypass that exceeds any effluent limitation in the permit (See Part IV.F., "Bypass of Treatment Facilities");
 - c. any upset that exceeds any effluent limitation in the permit (See Part IV.G., "Upset Conditions"); or
 - d. any violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
2. The permittee must also provide a written submission within five days of the time that the permittee becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:
 - a. a description of the noncompliance and its cause;
 - b. the period of noncompliance, including exact dates and times;
 - c. the estimated time noncompliance is expected to continue if it has not been corrected; and
 - d. steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

DRAFT

3. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.

4. Reports must be submitted to the addresses in Part III.B ("Reporting of Monitoring Results").

H. Other Noncompliance Reporting. The permittee must report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.B ("Reporting of Monitoring Results") are submitted. The reports must contain the information listed in Part III.G.2 of this permit ("Twenty-four Hour Notice of Noncompliance Reporting").

I. Changes in Discharge of Toxic Substances. The permittee must notify the Director and IDEQ as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 ug/l);
 - b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d. The level established by the Director in accordance with 40 CFR 122.44(f).
2. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":
 - a. Five hundred micrograms per liter (500 ug/l);

DRAFT

- b. One milligram per liter (1 mg/l) for antimony;
- c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
- d. The level established by the Director in accordance with 40 CFR 122.44(f).

J. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

IV. COMPLIANCE RESPONSIBILITIES

- A. Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.
- B. Penalties for Violations of Permit Conditions**

DRAFT

1. **Civil Penalties.** Pursuant to 40 CFR 19 and the Act, any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$27,500 per day for each violation).
2. **Administrative Penalties.** Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Pursuant to 40 CFR 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701

DRAFT

note) (currently \$11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$27,500). Pursuant to 40 CFR 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$137,500).

3. Criminal Penalties:

- a. Negligent Violations. The Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both.
- b. Knowing Violations. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
- c. Knowing Endangerment. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the

DRAFT

imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- d. **False Statements.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- C. **Need to Halt or Reduce Activity not a Defense.** It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.
- D. **Duty to Mitigate.** The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
- E. **Proper Operation and Maintenance.** The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. **Bypass of Treatment Facilities**
 - 1. **Bypass not exceeding limitations.** The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for

DRAFT

essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

- a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior notice, if possible at least 10 days before the date of the bypass.
- b. Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required under Part III.G ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

- a. Bypass is prohibited, and the Director or IDEQ may take enforcement action against the permittee for a bypass, unless:
 - i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
 - iii) The permittee submitted notices as required under paragraph 2 of this Part.
- b. The Director and IDEQ may approve an anticipated bypass, after considering its adverse effects, if the Director and IDEQ determine that it will meet the three conditions listed above in paragraph 3.a. of this Part.

G. Upset Conditions

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee meets the requirements of paragraph 2 of this Part.

DRAFT

No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under Part III.G, "Twenty-four Hour Notice of Noncompliance Reporting;" and
 - d. The permittee complied with any remedial measures required under Part IV.D, "Duty to Mitigate."
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

H. Toxic Pollutants. The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

I. Planned Changes. The permittee must give notice to the Director and IDEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Part III.I ("Changes in Discharge of Toxic Substances").

DRAFT

- J. Anticipated Noncompliance.** The permittee must give advance notice to the Director and IDEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

V. GENERAL PROVISIONS

- A. Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 122.62, 122.64, or 124.5. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- B. Duty to Reapply.** If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. In accordance with 40 CFR 122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Regional Administrator, the permittee must submit a new application at least 180 days before the expiration date of this permit.
- C. Duty to Provide Information.** The permittee must furnish to the Director and IDEQ, within the time specified in the request, any information that the Director or IDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the Director or IDEQ, upon request, copies of records required to be kept by this permit.
- D. Other Information.** When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director or IDEQ, it must promptly submit the omitted facts or corrected information.
- E. Signatory Requirements.** All applications, reports or information submitted to the Director and IDEQ must be signed and certified as follows.
1. All permit applications must be signed as follows:
 - a. For a corporation: by a responsible corporate officer.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

DRAFT

- c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.
- 2. All reports required by the permit and other information requested by the Director or IDEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and
 - c. The written authorization is submitted to the Director and IDEQ.
- 3. Changes to authorization. If an authorization under Part V.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.E.2. must be submitted to the Director and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.
- 4. Certification. Any person signing a document under this Part must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- F. Availability of Reports.** In accordance with 40 CFR 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the permittee. In

DRAFT

accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

- G. Inspection and Entry.** The permittee must allow the Director, IDEQ, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.
- H. Property Rights.** The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations.
- I. Transfers.** This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory).

DRAFT

- J. State Laws.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

VI. DEFINITIONS

1. "Act" means the Clean Water Act.
2. "Acute Toxic Unit" ("TU_a") is a measure of acute toxicity. TU_a is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e., 100/"LC₅₀").
3. "Administrator" means the Administrator of the EPA, or an authorized representative.
4. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
5. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
7. "Chronic toxic unit" ("TU_c") is a measure of chronic toxicity. TU_c is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/"NOEC").
8. "Composite" - see "24-hour composite".
9. "CWA" means the Clean Water Act.
10. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of

DRAFT

sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

11. "Director" means the Director of the Office of Water, EPA, or an authorized representative.
12. "DMR" means discharge monitoring report.
13. "EPA" means the United States Environmental Protection Agency.
14. "Grab" sample is an individual sample collected over a period of time not exceeding 15 minutes.
15. "IDEQ" means Idaho Division of Environmental Quality.
16. "LC₅₀" means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the test organisms exposed in the time period prescribed by the test.
17. "Maximum daily discharge limitation" means the highest allowable "daily discharge."
18. "Method Detection Limit (MDL)" means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
19. "NOEC" means no observed effect concentration. The NOEC is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).
20. "QA/QC" means quality assurance/quality control.
21. "Regional Administrator" means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.

DRAFT

22. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
23. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
24. "24-hour composite" sample means a combination of at least 8 discrete sample aliquots of at least 100 milliliters, collected over periodic intervals from the same location, during the operating hours of the facility over a 24 hour period. The composite must be flow proportional. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.

DRAFT